



Brattleboro Retreat - Energy Action Plan (2014-15)

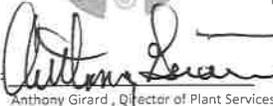
Purpose: To reduce operational cost savings, improve building comfort & performance, improve the patient care experience, and reduce our environmental impact.

Current: Annual energy costs (baseline): \$ 921,402

Annual energy use per square-foot: 97 kBtu

Goals: Reduce energy costs by 5%: \$ 46,070

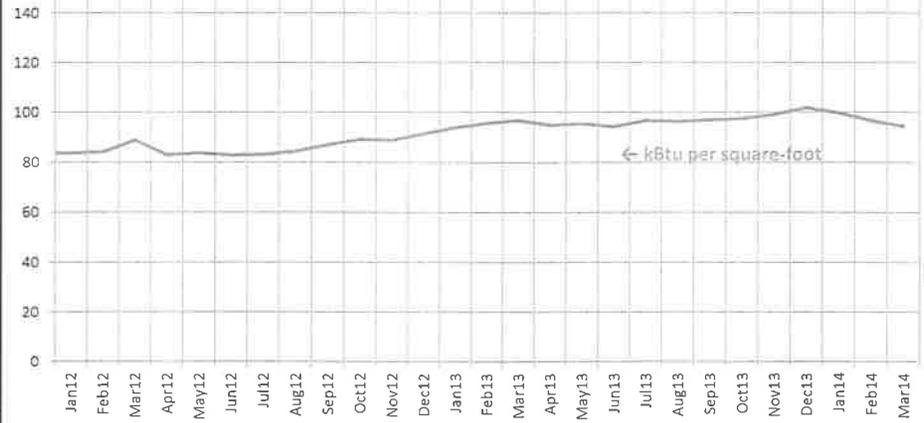
Reduce energy use per sq-ft by 5%: 92 kBtu

Signed: 
Anthony Girard, Director of Plant Services

Team: Anthony Girard, David Adams (EVT), Gary Swindler (EVT), John Penney (JFPCS)



Signed: 
David Adams - Staff Manager, Account Management

Action Plan			Completed Efforts / 2012- Present						
	Project Costs	Annual Savings	Project Description	Date	Proj. Costs	Incentives	Annual Savings	kWh Reduce	MMBTU
1. Upgrade of chilled water plant systems			Energy audit - Ln Consulting	Jan12	\$ 24,500	\$ 6,624	\$ -	0	
Sep13 Chiller/Hot water tank evaluation performed by JFPCS (cost share with EVT)	\$ 3,400	\$ -	Linden Lodge - Lighting	Apr12	\$ 4,010	\$ 2,140	\$ 3,320	29,731	(28)
Jul14 Purchase and installation of new chiller	\$ 270,000	\$ 5,338	Osgood Renovation	Jul12	\$ 13,600	\$ 5,000	\$ 7,253	57,655	-
			Tyler Renovation	Apr13	\$ 47,070	\$ 8,000	\$ 18,264	71,866	467
			Kitchen & Café Upgrade	Jun13	\$ 13,735	\$ 4,000	\$ 11,706	61,133	224
			Pharmacy - HVAC	Jun13	\$ 8,224	\$ 2,500	\$ 4,384	13,888	145
			Lighting - Rx	Feb14	\$ 125	\$ 100	\$ 62	438	0
2. HVAC			Totals: \$ 86,764 \$ 21,740 \$ 44,989 234,711 808						
Aug14 FCU study - identify options to upgrade fan coil unit controls (cost share w/EVT)	\$ 20,000	\$ -	Results & Energy Star Impacts						
Sep14 Osgood & Tyler - RCx to be performed by JFPCS (cost share w/EVT)									
Feb15 Tyler - Ventilation study (cost share with EVT)									
Aug15 Linden Lodge - VRF system									
3. Lighting									
Aug14 Conduct audit for potential upgrades/controls (cost share with EVT)	\$ 11,250	\$ -							
Nov14 Upgrade wall packs to LED	\$ 17,000	\$ 1,400							
Jun15 Replace pole mounted fixtures with LEDs	\$ 24,000	\$ 1,700							
4. Variable speed drive controls on fans and pumping systems									
Jul14 Upgrade boiler feedwater pumps									
Jun15 Circulator pump replacement - move to Grundfos technology									
5. Explore fuel switch and thermal shell improvements									
Apr15 Develop strategy for poor thermal building envelopes									
Jun16 Evaluate conversion to woodchip boiler or natural gas									
6. Other opportunities									
Aug14 Evaluate power factor converting capacitor bank (PFCC)									
Feb15 Ripley - investigate options to eliminate 40 Kv of electric hot water									
7. Build efficiency into operations & maintenance practices and new designs									
Sep14 Verify operational control strategies & scheduling for HVAC systems									
Feb15 Institute use of SkySpark as facilities management tool									
	\$ 345,650	\$ 8,438							